New Neologization Processes in Online Spaces

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Abstract
The digital environment offers an extensive array of technological possibilities, encompassing various types of keyboards (e.g., emoji, GIF), voice messages, traditional chat interfaces, AI-generated text or voice, and online linguistic wordplays such as leetspeak. These innovations facilitate the creation of a multitude of neosememes and neolexemes. Such advancements necessitate a reevaluation and potential reinvention of the categories associated with the traditional neologization process, as discussed by Bloomfield & Newmark (1963), Algeo (1993), Katamba (2005), and others. This paper provides a comprehensive review of linguistic creativity within online spaces, with a particular focus on less formal contexts. It examines patterns such as respelling, substitution, and phonological resonance, which are employed to accommodate neologisms that have emerged from digital communication. By analyzing these patterns, the study aims to contribute to contemporary linguistics and documentation of how digital communication reshapes linguistic innovations.

Keywords
Neologisms, neologization processes, respelling, substitution, online language, leetspeak

1. Introduction

Online spaces are a rich source of neologisms produced daily for the sake of (online) communication. Besides creating the necessary words to name the online phenomena, the internet has brought specific online cultures and communities where new words form an essential characteristic of such groups, e.g., TikTok and 'tiktokisms.' Online Neologisms are a popular subject to investigate. Initially, researchers were perplexed by Leetspeak [1] and considered internet English a new variety of English in terms of its lexis [2]. Based on Trigás Perreira's (2021) study on the new Oxford English Dictionary entries, there have not been dramatic changes in the standard word-formation trends in recent years. However, compared to the previous decades, the use of minor processes is increasing [3]. Unfortunately, analyses based on standard dictionary entries often overlook less formal language, which tends to be creatively respelled or employ non-traditional word-formation processes that deviate from established patterns. Díaz Hormigo (2012) points out that researchers do not include "expressive lexical creations, or those arising from popular etymology or word blending or wordplay, which are seen in literary or common language creations [4]." Similarly, online communication, using language creativity, is challenging to delimit and analyze within the established patterns of neology.

Stylistic Neologization

The process of neologization within the lexicon can also manifest at the stylistic level. Cabré (1999) distinguishes between neologisms of common language and neologisms of specialized language [5]. Both common and specialized language can contain neologisms from the register continuum, e.g., highly formal, neutral, less formal, informal, etc. When discussing neologisms in a particular style, we discuss stylistic neology [6] or expressive neology [7]. In Australian English, for example, clipping

1st International Workshop on Terminological Neologism Management (NeoTerm 2025), June 18, 2025, Thessaloniki, Greece
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and suffixation with non-standard suffixes take place to create slang expressions: telly → TV, esky → eskimo → cold box [8].

Many of the informal neologisms such as slang, jargon, and specific words on the internet used on social networks such as 'instagrammisms', or 'tiktokisms' do utilize traditional word-formation processes, for example, bingeable ← binge, followship ← follow + -ship, instafam ← Instagram + family, MUA ← makeup artist, selfie ← self-picture, which is supported by Kulkarni & Wang's (2018) study that concludes that blends, clipping, and reduplicates are dominant word-formation processes in slang [9].

Most slang creations are characterized by phonological humor, such as tongue twisters, malapropisms, puns, and wordplay. However, slang and particular sociolects can also be formed by other simple productive rules such as inversion/back slang when a word is read backward, such as in yob ← boy; spoonerisms or deliberate sound transportation, e.g., queer old dean ← dear old queen [10]; pig Latin: switching the first consonant or consonant cluster to the end of the term with consequent adding of a suffix "ay" to form a new word. For instance, pig → igp + ay → igpay [11]. Moreover, creating slang words by rhyming, using either reduplication or similarly sounding words (e.g., Cockney Rhyming slang), is popular too. Another peculiar and creative form and graphic and phonological interplay are gnashisms, "graphic neologisms of the American humorist Ogden Nash [based] on an interplay between sound, spelling and meaning [10]." They involve selecting a word with an unconventional spelling, identifying a rhyming counterpart, and then reconfiguring the latter to mimic the spelling of the former, sometimes adjusting the pronunciation accordingly: "a bit of talcum is always walcum" [10]. Literary works contain a plethora of stylistic neologisms based on linguistic devices or other structural modifications, and so do the online spaces.

Online Neologization

In many online neologisms, we can observe phonological resonance [12][13] because slang or non-standard language "plays with sounds and manipulates word pronunciation [14]." Uría Varela (1997) and Casas Gómez (2009) state that when creating euphemistic neologisms, "phonetic alteration, modulation, lexical substitution, composition, morphological inversion, syntagmatic grouping and composition and textual description may be used [15][16][4]", which is also true about online neologisms used for censorship such as algospeak.

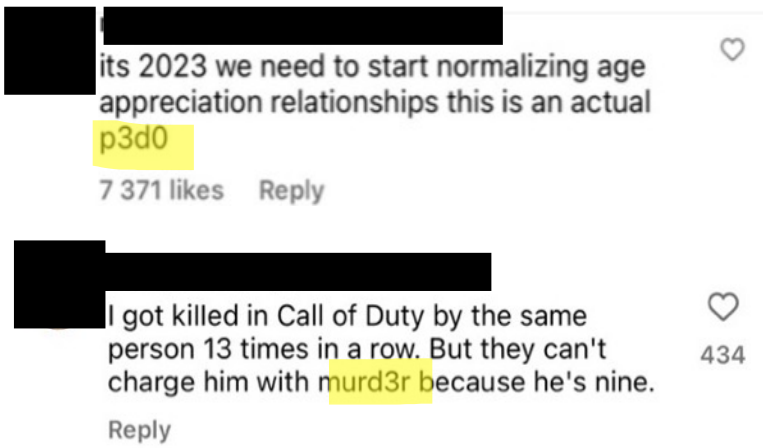
In word formation, the phonological motivation of a word is usually perceived as onomatopoeia, sound imitation by words. When investigating relationships between words that are similar in form or somehow resemble each other, Bauer (2003) refers to their relationship as phonetic resonance that can be done on multiple levels: "In the number of syllables or the stress pattern (when provision attracts visual), inalliteration (when petty attracts politics), in assonance (when goose attracts food) and rhyme (when intense attracts pretence) [12][13]." This phenomenon can also be observed in the creation of neologisms on the internet, where *homophobia* is coded as *cornucopia*. Semantically, they are two unrelated words, but the form shares phonetically related features. This word formation, however, differs from that of cockney-rhyming slang, where besides their rhyming quality (phonetically resonant morpheme), they partially share semantic quality (e.g., *plates of meat* refer to feet, they are flat like a plate and made of flesh [17]. Phonological motivation goes beyond onomatopoeia and can be seen in analogy, rhyming patterns, and derivation, e.g., *cornucopia* ← *homophobia*. Another example of phonetic wordplay is lolspeak, "a playful variety of English that shows complex and multi-faceted manipulation of Standard English for entertaining ends [18]." It resembles a text that went through a translator to another language, and then it was translated back to English with different spelling that playfully resembles the pronunciation of particular phonemes, originally appearing in the internet cat memes, for example: "hai thats a phat cat you has there srsly thats 1 rly obees kitteh ← Hi, that's a fat cat you have there! Seriously, that is one really obese kitty" [19].

On the internet, despite the digital mediation, a regular text (verbal, written communication) can be suddenly replied to with a voice message (verbal, oral), a gif, or an emoji (non-verbal, visual), and so can influence the way words are created. Leetspeak, widely known among the hacking and gaming communities, is based on substituting graphemes with numerals or symbols in order to create a secret or "special" language, e.g., n00b ←newbie, h0M3 4l0n3←home alone. Besides using letters and symbols, the internet and visual media brought an interplay of text and image, which can also be observed in the neologization of particular word categories. Emojis, a modern form of pictograms, play an essential role in word creation on the internet. In neologization of the text, they can either completely replace words: The ☀️ is shining; participate in the derivation: Today is ☀️y; or compounding ☀️shine. Compounds can be made of two emojis ☀️🔥 (meaning sunshine), a word an emoji: 🇨🇳ware (meaning chinaware), or even hyphenated as in: "🍌-🍑-puree" (banana-peach-puree) [20]. The neologisms made by compounding are not neosememes but neolexemes. Using emojis instead of lexemes or morphemes is an original way of creating neographemes for aesthetic effects, or even coding the text for a particular audience (e.g., algospeak). Albert (2020) adds that "emojis are ready-made utilizable for infinite iteration and re-combination [21]." Emojis also appear in online spaces with metaphorical implications. Depending on the context, emojis such as eggplant 🍆, peach 🍑, or taco 🌮 can refer to food or sexual concepts (eggplant → penis, peach → buttocks, taco → vagina). Such graphic combinations appear primarily on social media such as Facebook, Instagram, or TikTok.

These and other neologization practices observed online are further explored and analyzed based on the patterns to better understand word-formation processes and computer-mediated communication.

2. Methodology and Data

In this study, neologisms commonly encountered on TikTok, Instagram, Twitch, and Facebook were collected from various sources, such as blogs, glossaries, or individual social media posts in 2023 and 2024. We targeted online neologisms used on specific platforms and mostly in online communication. We defined neologism as any new word in form or meaning that does not appear in standard dictionaries but may be found in blogs, Urban Dictionary, and similar sources.



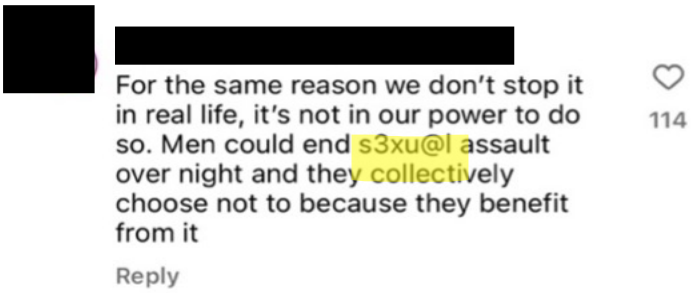


Figure 1: Comments on Instagram containing leetspeak coding (source: Instagram)

A word list was made from the reviewed sources, and neologisms were categorized based on their similarities. The words formed solely by typical word-formation processes were excluded from the study. Patterns that repeat in online spaces were further scrutinized. We were left with 76 words that were further analyzed. The majority of the neologisms belonged to slang, algospeak or sociolect. Each neologism was manually assessed and categorized based on the similarities. The following examples, to illustrate the findings, were collected from the cohort of algospeak and other recurring trends:

1. Neosememes:
    a. Rhyme: *cornucopia* ← *homophobia,* 🌽 ← *porn*
    b. Symbol replacement with specific meaning: 🌻 ← *Ukraine,* 🏴 ← *derogatory speech about the black* community, 🧠 ← *oral sex,* 🫱🫲 ← shy
    c. Euphemisms: cheese *pizza* ← *CHP* ← *child porn,* bite stick ← weapon, firecracker ← explosive
2. Neolexemes:
    a. Creative respelling: *seggs* ← *sex*, *ASL* ← as hell, *pron* ← porn, 80HD ← ADHD, BxMx ← bomb, ts ← this
    b. Emoji and letters combination: fa 🥖 ← *faggot*, P⭐ ← *pornstar,*

Other neosememes that contained emoji as a replacement of the word can also be considered visual metaphors, e.g., 🍒 ← breasts, ❄️ ← cocaine, and coded as an emoji based on their nicknames because of the visual resemblance (snow ← cocaine), however, they are not completely reliable and are context-based (🍏 ← breasts/buttocks/testicles).
Interestingly, emoji representations can be double coded in some cases. For example, if you send someone a brain within a context when you talk about education and learning, the 🧠 means a smart person but in another context, it might mean oral sex.

Emojis and their linguistic functions are currently subject to investigation and analyses (Siever et al., 2019; Seargeant, 2019; Albert, 2020; Veszelski, 2017; Guntuku et al.,2019; Thurlow & Jaroski, 2020, etc.). However, emojis as such are not the main focus of this study but rather a source for new word formation processes mentioned below.

3. Creative Respelling

One of the dominant word-formation neologization processes recurring on the internet and in the analyzed sample is creative respelling**.** One of the first scholars to operate with the term online is Kemmer (2003) [23]. The term has been used in different internet language analysis papers but never officially introduced in Lexicology coursebooks and textbooks. Below, we offer an analysis of commonly found patterns in the sample based on creative respelling.

Lexemes used online do not necessarily respect grammar or orthographic rules. On the contrary, they utilize misspellings and other non-standard variations to fool the computer or other playful purposes. The creative respelling is arbitrary; however, there are some patterns that can be followed (see below). Standard dictionaries choose standardized spelling, e.g., *noob*, but on the internet, it is also spelled as *n00b*. The latter variant is commonly found on the internet or in gaming glossaries.

Sound and rhythm are always considered when typing. Therefore, the phonetic sphere is always associated with graphic representations when using non-standard language. In this context, Crystal (2018) mentions replacing "a word-element by a similar-sounding item, as in *ecruiting (recruiting), ecruiter, e-lance (free-lance),* and *etailing (retailing)*". And thus creating a double meaning. *Ecruiting* can be understood as in CMC electronic recruiting but also as general recruiting in all environments. (When uttering "*They're recruiting*," an elision and omission occurs [ðɛr ə'krut ɪŋ]) [10].

Creative respelling in cyberspace draws mainly from leetspeak. It utilizes a wide range of leetspeak substitutions to code the words and thus create neologisms. Some of the creations are relatively stable, and some of them are unstable. Other ways of changing the form of the lexeme include metathesis or other types of metaplasms.

Although the term metaplasm in linguistics refers to the transportation, alteration, and modification of sounds, letters, and grammatical or rhetorical structures, modern linguistics calls for more up-to-date terminology that is easier to use and remember. Therefore, we suggest a fresh and more organized terminology for classifying non-standard internet neologisms.

The diagram below shows a division of creative respelling based on the similarities in the neologization processes.

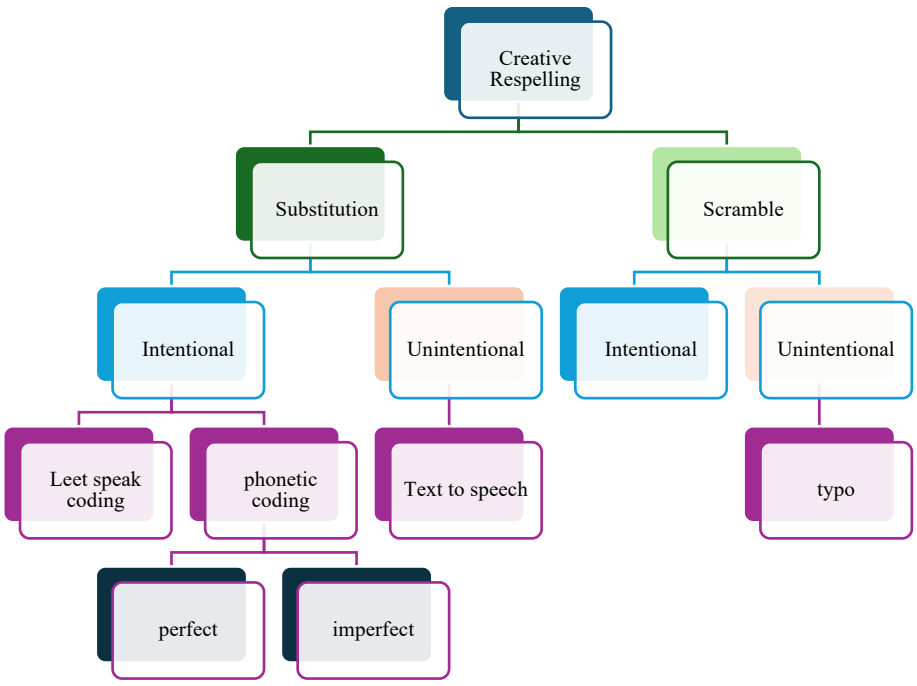


Figure 2: A categorization of neologisms created by creative respelling (source: author)

In our proposal, the umbrella term creative respelling contains two main categories. 'Substitution,' where letters are substituted by other symbols, and 'scramble,' where the letters stay the same, but their order is altered. Calhoun and Fawcett (2023) described linguistic processes to create censored words (some of the words in our sample) and organized them based on similar patterns. In their study they referred to creative respelling as 'lexical replacement' with the following subcategories 'semantic dissimilarity:' accounting ←sex work; 'semantic dissimilarity with phonetic similarity:'

shrek work ← sex work; 'semantic similarity:' blank Google docs ← white people. Another category was 'innovative phonological patterns:' applying attested phonological rules to unlikely words: sessy ← sexy; swap vowels within phonemic inventory: droogs ← drugs [24], which is, in our case, a subcategory of the creative respelling.

The substitution of letters in the online world is mostly intentional, as the users are trying to either obfuscate the algorithm and use replacement as a kind of censorship or to sound creative or extravagant. The intentional substitution is done via leetspeak coding: *Ir@n* ← *Iran*, *que3r* ← *queer*, *disa@bled* ← *disabled*, *depressi0n* ← *depression*, or phonetic replacement of the letter with the same or similar-sounding letter/phoneme: *thyn* ← *thin*, *seggs* ← *sex*, *tig tog* ← *TikTok*. Substitution can be done by a coexistence of phonetic coding and leetspeak: *Yt* ← *white, ouid* ← *weed, GYAT* ← *god(damn) 80HD* ← ADHD. The case of *yt/YT/Yt* and *Yf* ← *wife* is even more special. Not only are the words coded in the sounds, but they are also shortened to only two letters resembling an abbreviation. *Yt*, *Yf*, *80HD*, create a perfect phonetic homonymy with already existing lexemes, unlike, for example, *seggs* or *tigtog*, where the resemblance of the sounds is similar but not entirely identical, thus resulting in an imperfect phonetic substitution.

Occasionally, the substitution might be unintentional. *Le$bean* ← lesbian, originally intentionally substituted, is now pronounced as *le dollar bean* and has become a new code word for *lesbian*. The change happened on social media, where users tend to use text-to-speech functions to automatically generate the voice for their videos to either not use their voice, use standard pronunciation, or other reasons. Here, it is demonstrated that the computers have not been trained for creative respelling to some extent yet. The speech community enjoyed this witty unintentional code, "standardized" it and, have been using it ever since. Similarly, if people did not know how to read abbreviations, some words would be subjects to similar traits, such as LGBTQ, pronounced as an initialism. If pronounced as an acronym, it would sound like *leg booty*, another algospeak neologism and code word the language community adopted.

The next creative way of phonetic substitution is formed by emojis. *P*⭐ ← *pstar* ← *pornstar* is an intriguing example. The star emoji perfectly iconically represents the word *star*. However, in the case of *fa* 🥖 ← *faggot*, the morpheme *-got* was replaced by a similarly sounding and looking symbol *baguette*. For the speaker, the clipping of *ba* from *baguette* is a subconscious process. The speaker knows that it should be done in order to understand what is intended by the lexeme. Such word-emoji blends to create a brand-new neologization process category that needs to be further explored.

Scrambles, unlike substitutions, utilize the same letters that can be intentionally and unintentionally shuffled. When letters are scrambled unintentionally, they can be considered a typographical mistake, in short, a typo. A typo, such as *teh* ← *the*, became a part of lolspeak and was adopted by a wide range of language users. Scrambles such as *the blink in lio* ← *link in bio* can resemble spoonerisms. However, in this case, the newly formed phrase does not bear a new meaning as in the example *queer old dean* ← *deer old queen*. Words with scrambled letters or metathesis, such as *pron* ← *porn*, are produced on purpose, and thus categorized as intentional scrambles.

The internet slang, algospeak or slang in general might utilize various word formation processes simultaneously. The intentionality always depends on the message that is conveyed. The creative respelling serves many genres. If it is for humorous purposes, we can also refer to it as a satiric misspelling. When sounding more colloquial we can call it eyedialect [25].

There are numerous examples of online lexical innovation which need to be further investigated, for example, recently, within Slovak online chat forums, the term *ruský,* which denotes Russian, has been intentionally respelled as *ruSSky*. This alteration covertly incorporates the abbreviation *SS*, alluding to the Schutzstaffel, a paramilitary organization known for its 'protection squadron' activities during the Second World War. This linguistic modification reflects underlying political sentiments.

For now, we can conclude that similar lexical creations present an understudied lexical field as they tend to be considered ephemeral or nonce expressions. However, as Díaz Hormigo (2012) points out that extra-linguistic motivations (e.g., social and cultural) should be taken into account to map the creation, diffusion, and acceptability of new lexical units [4]. These motivations also influence the life of neologism if it is lexicalized and then accepted in the language system. Online neologisms and internet language itself are part of everyday life. Therefore, new communicative affordances should not be overlooked and treated as nonce expressions

4. Conclusion and Discussion

As the internet changed not only the way we communicate but also how we do many quotidian activities, the same applies to creating new words. Informal lexis is often considered unstable and more difficult to organize; however, with global access to the internet, non-standard words are becoming more widespread and considered an 'internet standard.' Expanding on the traditional word-formation processes, we suggested a new and more organized way of word-formation terminology to classify non-standard internet neologisms that can create a new ground for lexicological investigations with larger samples. Moreover, new ways of creating words, such as in algospeak, stem from socio-cultural traits. The appearance of internet neologisms is also tied to the purpose of their use, and, therefore, it is unavoidable to study internet neologisms from both their structure, meaning, and intention of usage. Furthermore, understanding the mechanisms and the conveyed messages behind such lexical creativity can enhance communication transparency among relatives, friends, and across generations. Identifying and decoding these expressions can facilitate necessary support when discussing taboo topics. Additionally, predicting such lexical patterns can aid corpus linguistics analysis in recognizing these expressions, thereby contributing to studying less formal or non-standard language varieties and everyday communication.

Declaration on Generative AI

During the preparation of this work, the author used Grammarly and MS Copilot in order to: Grammar and spelling check. After using these tool(s)/service(s), the author(s) reviewed and edited the content as needed and take(s) full responsibility for the publication’s content.

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